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III. — DESCRIPTIONS OF NEW AND LITTLE KNOWN PLANTS FROM MEXICO.

Tradescantia macropoda. Roots tuberous, fascicled: stems erect or suberect, sparingly branched, bilineate-pubescent, otherwise glabrous or puberulent: leaves oblong-ovate, acute, 5 to 8 cm. long, $1\frac{1}{2}$ to $2\frac{1}{2}$ cm. broad, abruptly narrowed below to an unequal base, glabrous or sometimes inconspicuously puberulent on either surface; margin, except at the ciliated base, hispidulous: sheaths 5 to 8 mm. long, puberulent, especially along the line of pubescence on the stem, strongly ciliate: inflorescence umbellate on rather long slender peduncles (2 to $4\frac{1}{2}$ cm. long): bracts orbicular-ovate, obtuse, glabrous, 5–7-nerved: flowers several, fugitive in the bracts; calyx-divisions oblong, navicular, thin or scarious, 1-nerved, 3 to 4 mm. long, one half as broad; the outer sepal often sparingly long hirsute-pubescent on the keel: corolla light purple in the dried state; petals about 6 mm. long, two thirds as broad: stamens 6, equal; filaments somewhat exceeding the corolla, rather scantily covered toward the base with multicellular hairs; anther-cells globose, equal, widely separated by a long narrow connective: ovary glabrous or with a few scattered glandular hairs at the apex: seeds light brown, transversely rugose. — Collected by C. G. Pringle, on moist banks of mountains above Cuernavaca, altitude 2,000 m., 3 August, 1896, no. 6402. A species nearly related to *T. commelinoides*, Rœm. & Schult., but readily separated by the nearly glabrous character throughout, and by the long slender glabrous peduncles.

Schcenocaulon Pringlei. Bulbs ovoid, 1 to 2 cm. in diameter: caudex erect, cylindrical, 3 to 10 cm. long, surrounded by a covering of dark brown fibres, the remnants of the bulb-scales and outer leaves: foliar leaves linear-attenuate, 1 to 5 dm. long, 2 to 6 mm. broad, 9–10-nerved, smooth on either surface, margin slightly roughened: naked scape $3\frac{1}{2}$ to 6 dm. high, terete or slightly flattened, smooth: inflorescence dense, 3 to 8 cm. long, 1 cm. broad: bracts broadly ovate, acute, scarious, $2\frac{1}{2}$ mm. long: divisions of the perianth oblong, about 4 mm. long, 3-nerved, obtuse or rounded at the slightly thickened apex, margins scarious, irregularly subdenticulate, or entire: stamens in anthesis about equal or slightly exceeding the divisions of the perianth (even in the later stages exceeding the perianth divisions by about 1 mm. only): immature capsules about 12 mm. long, erect, glabrous, rather dense, and somewhat appressed to the rhachis. — Collected by C. G. Pringle, on lava beds, Serrania de Ajusco, altitude 2,400 m., 23 August, 1896, no. 6415.

Agave (*Euagave*) *collina*. Acaulescent: leaves 30 to 40 in a rosette, linear-attenuate, 6 to 8 dm. long, 2 cm. broad just above the base, $2\frac{1}{2}$ cm. broad at the middle, gradually narrowed to the apex and terminated by a reddish brown spine (2 cm. or more long), margin narrowly cartilaginous bearing reddish brown straight or curved teeth (3 to 5 mm. long) at intervals of 8 to 18 mm., upper surface concave, below convex, bluish green: peduncles 3 to 4 m. long: panicle 6 to 8 dm. long, the lower branches about 3 dm. long: flowers greenish yellow, including the stamens, 9 cm. long: tube of the perianth $1\frac{1}{2}$ cm. long, funnel-shaped; segments linear-oblong, obtuse, thickened at the apex, about 2 cm. long: stamens more than twice as long as the perianth-segments; filaments flattened, glabrous, about 5 cm. long from the point of insertion; anthers $2\frac{1}{2}$ to 3 cm. in length: style overtopped by the anthers: fruit a loculicidal capsule, $4\frac{1}{2}$ to 5 cm. long, $2\frac{1}{2}$ to 3 cm. in diameter; seeds obliquely triangular, about 1 cm. long. — Collected by C. G. Pringle, on hillsides near Cuernavaca, altitude 1,500 m., 1896, no. 6349. This may prove eventually to be identical with the imperfectly known species *A. serratula*, Karw., but as the flowers and fruit of the latter are unknown, and our plant does not agree in all details with the fragmentary description of Karwinski, it seems best to regard Mr. Pringle's plant as a distinct species.

Nemastylis cærulescens. Bulb ovoid, $1\frac{1}{2}$ to 2 cm. in diameter, covered with dark brown scales: stem or scape 14 to 20 cm. high, branched above, bearing 1 to 3 pedunculate spathes: the outer radical leaves much reduced, the inner a single linear-attenuate leaf, 10 to 15 cm. long, usually exceeding the scape; stem leaves reduced to lance-attenuate bracts, 3 to $4\frac{1}{2}$ cm. long, subtending the inflorescence or pedunculate spathes: peduncles 1 to $2\frac{1}{2}$ cm. in length: bracts of the spathe linear-oblong, acuminate, the outer 2 to 3 cm. in length, the inner a little longer: pedicels slender, $2\frac{1}{2}$ to $3\frac{1}{2}$ cm. long: flowers white, sometimes with a faint shade of blue, $3\frac{1}{2}$ to $4\frac{1}{2}$ cm. in diameter, becoming reflexed; divisions of the perianth flabellate-nerved, hirtellous-puberulent above near the base, the outer oblong-elliptic, about 6 mm. broad, the inner somewhat smaller and a little narrowed toward the base: filaments united at the base, free portion flattened, about 2 mm. long; anthers 1 cm. in length, curling with age: capsule smooth, obovoid, subtruncate above, 7 to 10 mm. long, 5 to 7 mm. in diameter: seeds irregularly angled, yellowish, minutely pitted, 2 mm. long. — Collected by C. G. Pringle, on dry gravelly soil near Cuernavaca, altitude 1,600 m., June, 1896, no. 6324. A species most nearly related to *N. acuta*, Herb. (*N. geminiflora*, Nutt.), but a much smaller plant and with different flowers.

Bletia macristhmochila. Bulbs terrestrial, subglobose or somewhat gibbous: scape 6 to $6\frac{1}{2}$ dm. high, surrounded at the base by 4 to 6 purplish striated acute sheaths, naked portion smooth, 1–2-vaginate, terminating above in a few-flowered raceme: leaves plicate, broadly lance-acuminate, smooth, about 7-nerved, 12 to 30 cm. long, 2 to 4 cm. wide: bracts triangular-acuminate, 10 to 14 mm. long: flowers 5 to 8 cm. in diameter, rose-purple in the dried state: sepals oblong, short-acuminate, a little narrowed at the base, 3 to 4 cm. long, 10 to 12 mm. broad: petals oblong, obtuse or rounded at the apex, rather abruptly narrowed below, considerably broader than the sepals; labellum deeply 3-lobed, lateral lobes broad and obtusely triangular, strongly flabellate-nerved, the upper nearly horizontal margins subcrenate, lateral margins entire, median lobe deeply obcordate, apiculate in the terminal sinus, the two spreading subcrenulate or erose lobes narrowed below, and connecting with the lateral lobes by a long narrow neck or isthmus; lamellæ 5, strongly undulate, continuous from near the apex almost to the base of the labellum: gynœcium narrowly winged, 2 to $2\frac{1}{2}$ cm. long. — Collected by Dr. E. Palmer, on a barranca, near Guadalajara, June, 1886, no. 127, also by C. G. Pringle, in the same locality, 2 July, 1889, no. 2875. This plant has been confused with *B. campanulata*, Llav. & Lex., to which species it was referred by Dr. Sereno Watson. It may however be distinguished from *B. campanulata*, as well as from *B. fulgens*, Reichb., a large flowered species growing in similar localities, by the long narrow neck or isthmus of the labellum.

MICROSTYLIS STREPTOPETALA, Rob. & Greenm. Proc. Am. Acad. xxxii. 36. A large flowered form of this species was collected by C. G. Pringle, on lava beds, Serrania de Ajusco, at an elevation of 2,400 m., August, 1896, no. 6410. Except in the size of the flowers, which are about one third larger than in the type, the specimens agree in every detail with the above species.

Aristolochia longecaudata, Watson, var. *virescens*. Perennial from a ligneous base: stems decumbent or prostrate, sulcate, somewhat retrorsely hirsute-pubescent: leaves ovate to ovate-oblong, often acuminate, pubescent on either surface, 3–5-nerved, 3 to 9 cm. long, $1\frac{1}{2}$ to $5\frac{1}{2}$ cm. broad: petioles 1 to $3\frac{1}{2}$ cm. long. — Collected by C. G. Pringle, about Cuernavaca, altitude 1,500 m., 23 July, 1896, no. 6383. A form differing from the type of the species by its larger thinner and less pubescent leaves, but having the same technical characters in flower and fruit.

Euphorbia ramosa, Seaton, var. *villosior*. Stems decumbent,

much branched from a suffrutescent base, rather densely covered with a spreading villous pubescence: involucre purple, glabrous: capsule pubescent. — Collected by C. G. Pringle, Pedrigal (lava beds), Valley of Mexico, altitude 2,300 m., 25 August, 1896, no. 6436.

Mentzelia Conzattii. Stems whitish, covered with a thin scarious bark, below glabrous, above pubescent: lower leaves subopposite, upper alternate, simple, including the petioles 5 to 14 cm. long, $1\frac{1}{2}$ to $3\frac{1}{2}$ cm. broad, oblong-lanceolate, acuminate, acute, finely dentate, gradually narrowed at the entire base into a short petiole, scabrous above, tomentose beneath, midrib somewhat depressed above, prominent beneath; petioles 4 to 12 mm. long: inflorescence cymose-paniculate: flowers large, about 5 cm. in diameter, showy: calyx deeply 5-lobed; tube turbinate, barbelate-pubescent; lobes lance-ovate, acuminate, 12 mm. long, 4 mm. broad at the base, pubescent: corolla pentapetalous; petals ovate-oblong, short-acuminate, a little narrowed at the base, $2\frac{1}{2}$ cm. long, 1 to $1\frac{1}{2}$ cm. broad, yellow in the dried state: stamens disposed in phalanges opposite the petals, the filaments of the 3 outer stamens of each phalanx somewhat flattened, the others filiform: style single, filiform; stigma terminal: mature fruit not seen. — Collected by C. Conzatti, Oaxaca, altitude 1,500 m., 5 January, 1896, no. 62.

Streptotrachelus, nov. gen. of *Apocynaceæ* (*Euechitideæ*). Calyx 5-parted, naked at the base within. Corolla salverform, coronate, esquamate, tube cylindrical not dilated at the throat, soon becoming strongly contorted at the middle; lobes 5, dextrorsely convolute in the bud, and sinistrorsely twisted. Stamens affixed to the upper half of the corolla-tube, included, free portion of the filament short; anthers sagittate, acuminate, connivent about the stigma, the cells projecting below into two rigid appendages. Disk of 5 oblong fleshy persistent scales about equalling the ovary. Ovary of two distinct carpels with a common filiform style; stigma fleshy, oblong-cylindrical, short-acuminate, somewhat 2-cleft at the apex, dilated at the base, adherent above and below to the anthers; ovules in each carpel numerous. Follicles subterete. Seeds oblong-linear, furrowed, not contracted into a beak at the coma-bearing apex; albumen scanty; cotyledons plane. Woody stemmed twining plants with opposite leaves and cymose inflorescence. The generic name is taken from *στρεπτός*, twisted, and *τράχηλος*, throat, in reference to the twisting of the corolla-tube.

Streptotrachelus Pringlei. Stems woody, more or less covered with lenticels, twining and clambering over shrubs and small trees to 4 or 6 meters; branchlets reddish brown, puberulent: leaves opposite, petio-

late, oblong-ovate to broadly ovate, 4 to 8 cm. long, 2 to 5 cm. broad, short-acuminate, entire, usually cordate at the base, finely pubescent upon either surface, especially upon the prominent midrib and the strongly reticulate veins beneath, above dark green, paler beneath: petioles canaliculate, 1 to 3 cm. long, puberulent or finely pubescent, bearing at their bases 2 or more small subulate stipule-like structures: inflorescence in axillary pedunculate minutely pubescent cymes; peduncle 2 cm. or more long; pedicels 1 to $1\frac{1}{2}$ cm. long; calyx deeply 5-parted; divisions lance-linear, acute, about 4 mm. in length: corolla salverform, greenish yellow or sometimes purple; tube 22 mm. long, strongly contorted at the middle, provided at the orifice with an adnate subcuneate crown and bearing on the inside just above the attachment of the stamens a tuft of long villous hairs; lobes broadly obovate, 8 to 9 mm. long: anthers pubescent on the outer surface: carpels villous-pubescent: fruit reaching a length of 3 dm.; seeds about 2 cm. long. — Collected by C. G. Pringle, on lava beds near Cuernavaca, altitude 1,600 m., 23 September, 1896, no. 6554.

Astephanus pubescens. Stems slender, twining, finely striate, pubescent: leaves short-petiolate, lanceolate to ovate-lanceolate, $1\frac{1}{2}$ to 6 cm. long, 4 to 20 mm. broad, acute at the apex or sometimes submucronate, obtuse at the base, entire, sparingly pubescent on either surface: petioles 2 to 4 mm. long, pubescent: inflorescence in subumbellate short-pedunculate several flowered axillary clusters; peduncles 1 to 2 mm. long: flowers on slender pubescent pedicels, the latter about 3 mm. in length: calyx minute, 5-parted, pubescent on the outer surface, provided on the inside with 5 small oblong glands alternating with the lobes: divisions ovate, acutish: corolla subcampanulate, about 3 mm. in diameter, deeply 5-lobed, white or tinged with brownish purple: lobes dextrorsely convolute in the bud, oblong, emarginate at the apex, spreading, later becoming somewhat reflexed, the upper inner surface, as well as the corolla-tube inside, granular or almost lepidote: fruit not seen. — Collected by C. G. Pringle, on a wet barranca above Cuernavaca, altitude 2,000 m., 21 September, 1896, no. 6507, and in the mountains near Cuernavaca, 3 August, 1896, no. 7203. A plant with the habit of *Metastelma*, or of *Vincetoxicum*, but by the entire absence of a crown, or at most by a very rudimentary one, its affinity is rather with the genus *Astephanus*, notwithstanding the presence of the minute glands at the sinuses on the inside of the calyx.

Gonolobus chrysanthus. Stems twining, greenish purple, granulose, interspersed with spreading or subreflexed hirsute pubescence: leaves ovate-oblong, acuminate, obtusish at the apex, a deep narrow open sinus

at the base with rounded basal lobes on either side, margin entire, finely ciliate, hirsute or hirsutish pubescent above, hirsute on the midrib and veins beneath, 5 to 9 cm. long, 2 to 4 cm. broad; petioles hirsute, 1 to 5 cm. long: inflorescence in axillary pedunculate subumbellate racemes, granulose or glandular, and interspersed with spreading hirsute hairs: peduncles 1 to 2 cm. long: bracts linear, subulate, hirsute: pedicels slender, 10 to 17 mm. long: buds oblong, oval, obtuse, pubescent: calyx-divisions oblong-linear, acutish, ciliate, hirsute on the outer surface, glabrous within, 3 to 4 mm. long, about 1 mm. broad: corolla $1\frac{1}{2}$ to $2\frac{1}{2}$ cm. in diameter, orange yellow, or yellow streaked with parallel greenish veins, outer surface pubescent, inner surface glabrous; lobes oblong-linear, obtuse or rounded, usually oblique and often with a slight notch at the apex, 6 to 10 mm. long, about 3 mm. broad; crown 5-lobed, lobes denticulate. — Collected by C. G. Pringle, on hills near Patzcuaro, State of Michoacan, 3 August, 1892, no. 5277; on a wet wooded barranca above Cuernavaca, altitude 2,000 m., 4 August, 1896, no. 6373; Pedigral (lava beds), Valley of Mexico, altitude 2,500 m., 25 August, 1896, no. 6437.

Lithospermum (*Batschia*) *oblongifolium*. Herbaceous from a woody perennial base: stems erect, sparingly branched, $3\frac{1}{2}$ to 5 dm. high, covered with a spreading hirsute pubescence: leaves sessile, oblong or oblong-ovate, acute, entire, tuberculate-hispid above, with a scattered substrigose pubescence beneath (somewhat more dense upon the veins), 4 to $8\frac{1}{2}$ cm. long, $1\frac{1}{2}$ to $2\frac{1}{2}$ cm. broad: flowers axillary, disposed in leafy one-sided racemes or scorpioid cymes, in fruit about 15 cm. in length: pedicels 4 to 8 mm. long: calyx deeply 5-parted, persistent; divisions linear, 1-nerved, hirsute-pubescent, 10 to 14 mm. long: corolla tubular, 5-lobed, gibbous at the throat, about 3 cm. long; tube pubescent on the outer surface, inner surface glabrous except along five lines in continuance with the short filaments; lobes erect, subreniform, 3 mm. long, 5 mm. broad: style filiform, glabrous, more or less persistent; stigma capitate-2-lobed: nutlets ovate, acute, smooth, white, or white below and brownish above. — Collected by C. G. Pringle, on the Serrania de Ajusco, altitude 3,000 m., 18 August, 1896, no. 6451. A species with the habit of *L. Palmeri*, Wats., but readily distinguished by the pubescence of the stem and by the characters of the corolla and stigma.

Citharexylum glabrum. A tree 6 to 8 m. in height, glabrous throughout: branches and branchlets subterete, striate, covered with a brownish bark: leaves oblong to oblong-lanceolate, 4 to 10 cm. long, 1 to 3 cm. broad, rounded, obtuse or acute at the apex, narrowed at the base

into a petiole (10 to 16 mm. long), punctate especially on the under surface, dark green above, paler beneath, glandular below on either side of the midrib at the base of the blade with 1 to 2 or 3 oblong-elliptic glands: inflorescence in terminal and axillary nodding spike-like racemes, $4\frac{1}{2}$ to 11 cm. long; bracts minute, equal to or exceeding the pedicels, the latter about 1 mm. long, and jointed just below the flowers: calyx 2 mm. long, subtruncate, 5-nerved, somewhat 5-angled and ciliate: corolla about 5 mm. in length, tubular, 5-lobed, white or pinkish; tube broad, glabrous on the outer surface below, puberulent above, pubescent in the throat; lobes broad, oblong or rounded, pubescent on either surface: style glabrous. — Collected by C. G. Pringle, in the mountains near Lake Chapala, Jalisco, 16 December, 1889, no. 2442. Flowers fragrant. Distributed as *Gonzalea glabra*, Wats., n. sp., Proc. Am. Acad. xxv. 152.

Citharexylum ovatifolium. A soft woody shrub, 2 to 3 m. in height: branches tetragonal, minutely striate, pubescent: leaves membranaceous, ovate-acuminate, 8 to 12 cm. long, $3\frac{1}{2}$ to $6\frac{1}{2}$ cm. broad, obtuse, submucronate, abruptly narrowed at the base into a more or less winged pubescent petiole, entire or irregularly crenate-dentate, ciliate, pubescent upon either surface, dark green above, slightly paler beneath, usually provided with one or more large glands on the lower surface at the base of the blade on either side of the midrib: inflorescence in pubescent spike-like nodding or flexuous racemes, 5 to 12 cm. long, terminating the branches and branchlets: bracts about 1 mm. long, minute, subulate, equalling or slightly exceeding the short pubescent pedicels: calyx 3 mm. long, subtruncate or minutely and irregularly 5-dentate, ciliate, 5-nerved, and somewhat 5-angled, pubescent on the outer surface: corolla about 7 mm. long, tubular, 5-lobed, white; tube broad, about 4 mm. long, glabrous on the outer surface, densely pilose-pubescent in the throat; lobes subrotund, glabrous on either surface, strongly ciliate: style glabrous. — Collected by C. G. Pringle, in a wet wooded barranca above Cuernavaca, altitude 2,000 m., August–September, 1896, no. 6540. This species has much in common with the imperfectly known *C. Sessei*, D. Don, but as the latter species is so very obscure it seems best to regard Mr. Pringle's plant as distinct, especially as it does not accord in all details with the meagre description of Don's species.

Solanum (Morella) deflexum. An annual erect or ascending herb becoming slightly woody at the base: roots fibrous: stems 1 to $4\frac{1}{2}$ dm. high, simple or much branched, terete, covered especially above with a spreading hirsute pubescence: leaves simple, solitary or in pairs of subequal size, 2 to 6 cm. long, one half as broad, ovate, acute or

obtusish, entire or subrepand, ciliate, strigose-pubescent upon either surface, and hirsute upon the midrib and veins beneath, abruptly contracted below into a narrowly winged petiole; petioles 5 to 22 mm. long, hirsute-pubescent: inflorescence extra-axillary of 1 to 4 slender reflexed pubescent pedicels, becoming in fruit about 2 cm. long: calyx deeply 5-parted, densely covered with a long spreading hirsute pubescence; divisions linear-oblong, acute, 3 to 7 mm. long, more or less persistent: corolla about 1 cm. in diameter; lobes broadly ovate, short-pubescent at the acute apex, externally covered with a few long scattered jointed hairs: stamens 5, equal; anthers oblong: ovary glabrous, 2(-4)-celled: fruit smooth, about 8 mm. in diameter; seeds oblique-ovate, corrugated, 3 mm. long. — Collected by Lucius C. Smith, at Cuicatlan, 15 July, 1895, no. 403; E. W. Nelson, between Topana, Oaxaca, and Tonalá, Chiapas, altitude 61 to 150 m., 1-3 August, 1895, no. 2876^a; and by C. G. Pringle, on shaded hillsides near Cuernavaca, altitude 1,500 m., 26 July, 1896, no. 6400. A species apparently well characterized by the inflorescence, calyx, and pubescence. Most nearly related to the *Solanum nigrum* group.

SOLANUM MITLENSE, Dun. Specimens agreeing in all detailed characters with the original description of the above species were collected in the State of Oaxaca by Lucius C. Smith in the Calderon, San Juan del Estado, 1 June, 1894, no. 37; by E. W. Nelson, in the Valley of Oaxaca, altitude 1,540 to 1,600 m., 8 and 24 September, 1894, no. 1234; by C. G. Pringle, in ravines of hills near Oaxaca, altitude 1,750 m., 15 September, 1894, no. 4907; and by C. Conzatti and V. González, about the city of Oaxaca, altitude 1,550 m., 2 April, 1896, no. 98. From Mr. Pringle's full and careful notes, the following additional characters may be given. Entire plant 3 to 4½ m. in height, tree-like in habit; trunk 2 to 2½ m. high, 1 to 2 dm. in diameter, trichotomously branched above, covered with a grayish brown bark, stout spines, and a scattered stellate pubescence: mature fruit green, globose, about 2 cm. in diameter: seeds 3 mm. long, oblique, compressed and scrobiculate.

Dicliptera Pringlei. Annual, herbaceous, 5 to 8 dm. high: roots fibrous: stems hexangular, somewhat furrowed, lineolate, puberulent upon the angles, swollen or constricted just above the nodes: leaves ovate to ovate-lanceolate, acuminate, acute, narrowed below into a slender petiole, entire, ciliate, lineolate with a few scattered hairs on either surface; petioles pubescent, 2½ to 3½ cm. long, becoming gradually shorter above: inflorescence much branched, open: heads on long slender pedicels, 1(-2)-flowered: outer bracts equal, elliptical, muticous,

glabrous, resupinate, 5 to 6 mm. long, two thirds as broad; inner bracts linear-lanceolate, nearly 5 mm. long, 1 mm. broad, margins scarious; bractlets linear-lanceolate, diaphanous, about 4 mm. long with a rudimentary flower in the axil: calyx deeply 5-parted; divisions lance-attenuate, ciliate: corolla bilabiate, $1\frac{1}{2}$ to 2 cm. long, yellowish white striped with purple in the dried state, externally pubescent: stamens with filaments and anthers purple: capsule smooth, about 6 mm. long; seeds orbicular, flattened, muricate. — Collected by C. G. Pringle, on lava beds near Cuernavaca, altitude 1,500 m., 3 November, 1896, no. 6602; and by E. W. Nelson, near Tlalixtaquilla, Guerrero, 10 December, 1894, no. 2256.

Buceragenia, nov. gen. of *Acanthaceæ* (*Enjusticieæ*). Calyx 5-parted, segments linear, subequal. Corolla tubular; tube cylindrical, erect, not amplified above; limb short, 2-labiate, posterior lip interior, incurved, deeply emarginate or shortly 2-lobed, anterior erect or scarcely spreading, 3-lobed, external. Stamens 2, anterior, inserted at the middle of the corolla-tube, included; anthers 1-celled, oblong, medio-dorsally affixed, obtuse. Staminodea 2. Disk annular, inconspicuous. Style slightly thickened above, stigma minutely and unequally 2-lobed; ovules 2 in each cell. Capsule oblong, narrowed below into a solid stipe; seeds 4, suborbicular, flattened, strongly muricate or roughened; retinacula slender; embryo normal. — Herbaceous perennials having their affinity with the genus *Habracanthus*, but differing by the shallowly bilabiate corolla, and the presence of staminodea. The generic name is taken from βούς, κέρας, and γύγνομαι, in reference to the Spanish name Cuernavaca, from which place it comes.

Buceragenia minutiflora. Stems erect, about 1 m. high, simple, nearly naked below, branched and leafy above, glabrous; branches slender, internodes 5 to 12 cm. in length: leaves ovate, usually acuminate with an obtusish apex, rather abruptly narrowed at the base and attenuated into a long narrowly winged petiole, entire or subrepand, ciliate, minutely lineolate on the upper surface with a few scattered hirsutish hairs, pubescent on the midrib and prominent veins beneath, dark green above, paler beneath: inflorescence in slender interrupted spikes or spikoid racemes terminating the stem and branches, puberulent and stipitate-glandular; spikes (4 to 13 cm. long) on slender peduncles; bracts ovate, acute, about 1 mm. long; bractlets minute: calyx 2 to 5 mm. long, 5-parted, persistent; divisions subequal, linear, acute, puberulent and stipitate-glandular: corolla minute, 2 to 3 mm. long, tubular, 5-nerved, slightly enlarged below; lobes oblong, rounded at the apex, covered with

several erect or spreading hairs on the outer surface near the tip: capsule 13 to 15 mm. long, glabrous. — Collected by C. G. Pringle, in a wet barranca above Cuernavaca, altitude 2,000 m., 21 September, 1896, no. 6506.

Justicia Clinopodium, Gray, in herb. Stems ascending or erect, usually branching, terete, 2 to 5 dm. high, lineolate pubescent, also covered with long spreading villous pubescence, often interspersed with glandular hairs: leaves short-petiolate, obtuse, entire, subcordate at the base, with a scattered villous pubescence on either surface, especially upon the veins beneath, 2 to 5 cm. long, 1 to $2\frac{3}{4}$ cm. broad: petioles short, 1 to 5 mm. in length; inflorescence in terminal pedunculate spikes becoming 8 cm. long; bracts and bractlets lanceolate, acute, 10 to 15 mm. long, covered on the outer surface and margin with long villous hairs intermixed with glandular hairs: calyx deeply 4-parted, the equal or subequal divisions linear-acute, about equalling the bracts, externally villous-pubescent: corolla glabrous, about 2 cm. long, purple, the upper lip shortly bifid, the lower deeply 3-lobed, segments subequal, oblong, rounded at the tip: stamens of the genus, but with the adnate portion pubescent: style smooth: capsule glabrous, about 13 mm. long; seeds compressed, more or less densely covered with shaggy armed trichomes. — Collected by Bourgeau, in the region of Orizaba, 25 August, 1866, no. 2901; also by Botteri in the same locality without number; and by Ghiesbreght, in Chiapas, 1864–70, nos. 80, 684.

BOUVARDIA OBOVATA, HBK. A stout glabrous herb nearly a meter in height: stems simple, unbranched, angular, striate-sulcate; internodes 5 to 13 cm. in length: leaves verticillate, 5 to 8 in each whorl, narrowly obovate or oblanceolate, 4 to 12 cm. long, 1 to 3 cm. broad, usually obtusish and submucronate, sometimes acute, entire, revolute, subrepand and often hispidulous on the margins toward the apex, gradually narrowed below the middle to a subpetiolate base, rather dark green to olive green in color (in the dried state), slightly paler beneath; midrib and veins rather prominent, especially beneath; interpetiolar stipules subdeltoid, acute or short-acuminate, unequally serrulate or sublaciniate: inflorescence in a terminal close subtrichotomous cyme: peduncles 9 to 12 mm. long; the ultimate divisions pruinose-puberulent: calyx deeply 4(-5)-parted; divisions linear, about 3 mm. long, acute, often deeply colored, ciliate or subhispidulous on the margins: corolla tubular, 4(-5)-parted, $2\frac{1}{2}$ to 3 cm. long, deep red or crimson, minutely pruinose or puberulent on the outer surface, glabrous within; lobes ovate, acute, about 4 mm. long: anthers subsessile in the upper portion of the corolla-tube: style

slender, filiform, exceeding the corolla; stigma 2-parted: capsule subglobose, somewhat compressed laterally, 8 to 9 mm. long, equally broad, and 6 to 7 mm. thick. — Collected by C. G. Pringle, on a mountain side near Cuernavaca, State of Morelos, 18 November, 1895, no. 7062, and in the same locality in 1896, no. 6330. The above plant is in all probability the one described in HBK. Nov. Gen. & Spec. iii. 385, notwithstanding the little discrepancy as to the number of leaves in the whorl, and the quadrangular stem; the former character is a variable one, as shown by many species of the genus, and the angulation of the stem depends to a great extent upon the number of leaves in the whorl. It seems best, therefore, in view of the very meagre description of the above species, which was doubtless drawn from a very incomplete specimen, to regard the above cited numbers of Mr. Pringle as representing the *Bouvardia obovata*, HBK., and to amplify the characters of the same.

HAMELIA NODOSA, Mart. & Gal. Specimens agreeing in all essential characters with Walper's description of the above species (Walp. Rep. vi. 51) were collected by Rev. Lucius C. Smith at Ojitlan, Oaxaca, altitude 198 m., 21 August, 1895, no. 605. The plant differs, however, in having the fruit elliptic-oblong (6 to 9 mm. long, one half as broad) instead of globose.

Crusea calcicola. An herbaceous annual: stems erect, branching from the base, tetragonal, glabrous or hispidulous on the angles: leaves lanceolate or lance-oblong, 2 to $4\frac{1}{2}$ cm. long, 6 to 13 cm. broad, acute, somewhat narrowed at the base, margin revolute, scabrous, midrib and veins prominent beneath, glabrous on either surface, slightly paler beneath; stipules puberulent, 3 to 4 mm. long bearing 3 to 7 setæ on either side: inflorescence in axillary or terminal pedunculate involucrate heads: peduncles above puberulent and often hispidulous on the angles: floral leaves (subtending the heads) 1 to 2 cm. long, ciliated at the broadened base: bracts strongly dilated at the base, short-acuminate, shorter than the floral leaves: flowers short-pedicellate, intermixed with numerous lacinate pales: calyx small, about 2 mm. long, 4-lobed; lobes slightly exceeding the tube, narrow, acute, long-ciliate: corolla tubular, narrowed below, somewhat amplified above, 4-lobed, about 4 mm. long, white; lobes oblong, obtuse, usually bearing on the outer surface near the apex a few spreading hairs: stamens exserted: stigma overtopping the anthers. — Collected by C. G. Pringle, on dry calcareous hills, Las Sedas, Oaxaca, at an elevation of 1,800 m., 8 September, 1894, no. 4869. Distributed as *C. cruciata*, Wats., but differing from the latter species in the character of the stem, the stipules, and the bracts.

Crusea coccinea, DC., var. *pubescens*. Leaves ovate, acute, often short-acuminate, covered above with a scattered hirsute pubescence: corolla-tube, especially the lower slender portion, pubescent on the outer surface. — Collected by E. W. Nelson, on the west slope of Mt. Zempoaltepec, altitude 2,100 to 2,400 m., 5–13 July, 1894, no. 581; also on the northwestern slope of the same mountain, altitude 2,400 to 3,000 m., 10 July, 1894, no. 699. Differs from the species proper by the smaller leaves, the pubescence of the same, and by the pubescent corolla.

Crusea cruciata, Watson, var. *villosior*. Stem $\frac{2}{3}$ to 1 m. in height: leaves lanceolate, acuminate, 9 to 12 cm. long, 1 to 2 cm. broad; floral leaves villous-pubescent on the lower surface near the base: flowers white to purple. — Collected by Dr. E. Palmer, at Jalisco, 1886, no. 901, and by C. G. Pringle, near Cuernavaca, altitude 1,600 m., 17 September, 1896, nos. 6508, 7225. With habit, lacinate stipules, and essential characters of the type, but somewhat more robust, and with a rather striking villous pubescence on the broadened basilar portion of the floral leaves.

CRUSEA VILLOSA, Watson, founded upon Pringle's no. 2448 from Jalisco, collected in 1890, also Pringle's no. 3257 from the same locality, collected in 1890 and distributed under the above name, may be referred to *Crusea Palmeri*, Gray. Notwithstanding the somewhat remote localities, both of Mr. Pringle's numbers are identical with Dr. Gray's type, collected by Dr. Edward Palmer in Southwestern Chihuahua.

Galium prætermisum. Perennial: the slender woody roots containing a red coloring matter: stems 3 to $4\frac{1}{2}$ dm. long, slender, weak, decumbent, purplish at the base, green above, glabrous or hispidulous on the angles: leaves in fours, sessile, linear-lanceolate, 8 to 14 mm. long, 1 to 3 mm. broad, acute, margin revolute (hispidulous on the older leaves), upper surface usually hispidulous, shining, glabrous beneath: flowers in subtrichotomous cymes: pedicels 3 to 10 mm. long, glabrous or minutely hispidulous: corolla rotate, yellow, 4(-3)-lobed; lobes ovate-oblong, obtuse or short-acuminate and obtusish: fruit long-hirsute with uncinat hairs. — Collected by C. G. Pringle, in pine woods, base of Sierra de Ajusco, altitude 2,460 m., 19 September, 1896, no. 6596. A species with the habit of *G. Mexicanum*, HBK., but with leaves in fours, not pungent-acuminate, and with much longer uncinat hairs on the fruit.

VIBURNUM ELATUM, Benth. Excellent flowering and fruiting specimens, apparently belonging to this species, have been secured by Mr. Pringle, and the following additional characters may be noted. Drupe ovoid, 12 to 14 mm. long, black, covered with a blue bloom; stone flat,

broadly ovate or ovate-oblong, 9 to 11 mm. long, nearly as broad, convex on one surface, flat on the other with a short ridge near the base. — Collected by streams, Valley of Mexico, 10 October, 1896, no. 6226.

Stevia clinopodioides. An herbaceous perennial: roots fibrous, clustered at the base of the stem: stems simple or nearly so, about 30 cm. high, giving off at the base several slender horizontal subterranean root-stocks, closely pubescent above and purple: leaves opposite below, alternate above, spatulate, $2\frac{1}{2}$ to 4 cm. long, 6 to 10 mm. broad, obtuse at the apex, gradually narrowed below to the subpetiolate base, callously serrate along the upper half, entire below, appressed-puberulent on the veins and on the upper surface near the margin, glandular-punctate: inflorescence a compact dense umbel terminating the stems: heads about 1 cm. long, 5-flowered; involucre scales linear-acuminate, often slightly unequal, appressed-puberulent on the outer surface, greenish purple, 6 to 7 mm. long: flowers considerably exceeding the involucre: corolla with a slender greenish tube below, amplified above, the upper amplified portion and the limb purple; pappus paleaceous, short, exaristate: achenes glabrous, 3 to 4 mm. long. — Collected by C. G. Pringle, on the Serrania de Ajusco, altitude 3,000 m., 22 October, 1896, no. 6594.

Stevia diffusa. Annual: roots fibrous: stems herbaceous, erect, terete, greenish purple, hirsutish pubescent with jointed hairs, interspersed above with a stipitate glandular pubescence: leaves (including the petiole) 3 to 7 cm. long, 1 to 4 cm. broad, opposite below, becoming alternate above, membranous, broadly ovate to ovate-lanceolate (the uppermost often acuminate), acute at the apex, contracted below into a narrowly winged and ciliated petiole, crenate-serrate, or the more reduced leaves with a subentire margin, essentially glabrous upon either surface, except on the veins, where they are sparingly hirtellous: heads widely separated on long slender glandular pedicels, the latter from 1 to $1\frac{1}{2}$ cm. long; scales of the involucre 5, linear, acuminate, 6 mm. long, rather strongly 2-nerved, the outer surface appressed-puberulent, very rarely glandular: flowers one third longer than the involucre: corolla discolorous, tube purplish, puberulent, limb white: achenes puberulent, 3 mm. long: pappus paleaceous and 3-aristate. — Collected by C. G. Pringle, on lava beds near Cuernavaca, altitude 2,100 m., 3 November, 1896, no. 6608. Perhaps related to *S. micrantha*, Lag., but with longer corollas, shorter achenes, and a much more diffuse habit.

STEVIA TRACHELIOIDES, DC. It is interesting to note that Mr. Pringle has rediscovered this apparently rare species on the Serrania de Ajusco, altitude 3,000 m., 22 October, 1896, no. 6593, where specimens

were secured which agree in every detail with the original plant collected by Berlandier in the Valley of Toluca, no. 1164. Our plant as well as the type shows the inflorescence and the scales of the involucre to be glandular-pubescent, a character not mentioned in De Candolle's description, *Prodr.* v. 115.

Eupatorium oreithales. Perennial from a horizontal root-stock: roots fibrous, rather stout: stems herbaceous, erect, purple, pubescent, 5 to 6 dm. high, leafy below, nearly naked above, frequently branching at the base: leaves opposite, broadly ovate, obtuse or rounded at the apex, subtruncate or short-cuneate at the base, crenate, hirtellous on the upper surface, puberulent on the veins beneath, becoming essentially glabrous, 2 to 5 cm. long, nearly or quite as broad: petioles pubescent, purple, 1 to 3 cm. long: heads few, disposed in loose terminal corymbs, about 10 mm. high, 50-60-flowered: involucral scales about 2-seriate, nearly equal, greenish purple, pubescent, linear-oblong, acute, ciliate, about 6 mm. long: corollas white, 4 to 5 mm. long, tubes slender below, about equalling the amplified upper portion, the lobes pubescent on their outer surfaces: pappus about as long as the corolla-tube: achenes 3 mm. long, puberulent. — Collected by C. G. Pringle, on the Serrania de Ajusco, altitude 2,400 m., 28 September, 1896, no. 6563. Nearly related to *E. Saltivarii*, Schz. Bip., but readily distinguished by its broader more rotund and crenate leaves, and also by the nearly naked stem and longer petioles.

EUPATORIUM EUONYMIFOLIUM, Greene, *Pittonia*, iii. 31 = *E. Lemoni*, Rob. Proc. Am. Acad. xxvii. 171.

EUPATORIUM KÆLLIÆFOLIUM, Greene, l. c. = *E. hyssopinum*, Gray, Proc. Am. Acad. xv. 28.

Gnaphalium linearifolium. Annual, becoming somewhat ligneous below, herbaceous above: stems terete, white-lanate, 2 to 4 mm. in diameter, simple or branched, 7 to 10 dm. high: leaves sessile, linear-attenuate, 1 (-3)-nerved, margin revolute, arachnoid-pubescent above, white-tomentose beneath, later becoming reflexed, 6 to 11 cm. long, about 2 mm. wide: inflorescence corymbose: heads sessile or nearly so, 6 mm. high; involucre about 4-seriate; scales stramineous, the outer ovate-acute, inner oblong-obtusish: flowers numerous, perfect flowers about ten: achenes terete, glabrous. — Collected by C. G. Pringle, on rocky hills near Guadalajara, 7 October, 1889, no. 2342 (distributed as *G. leptophyllum*, DC.); on the Sierra de San Felipe, at an altitude of 2,150 m., 17 November, 1894, no. 5685; and also in the latter locality by C. L. Smith, no. 592.

Sclerocarpus Schiedeanus, Benth. & Hook., var. *elongatus*. A slender much branched herb, 1 to 1½ m. high: leaves lanceolate, 5 to 12 cm. long, 5 to 12 mm. broad: ray-flowers 5 to 8. — Collected by L. C. Ervendberg, at Wartenberg near Tantoyuca, Prov. Huasteca, 1858, nos. 98, 99, and by C. G. Pringle, in fields around Cuernavaca, altitude 1,600 m., 31 October, 1896, no. 6606. A variety readily recognized by its slender habit and long narrow leaves.

VERBESINA ONCOPHORA, Rob. & Seaton? Specimens collected by C. G. Pringle, under bluffs of barranca above Cuernavaca, altitude 2,000 m., 1 November, 1896, no. 6600, agree in inflorescence and floral characters with this species, but differ conspicuously by having opposite or subopposite and more remotely denticulate leaves, also by the absence of any excrescences on the stems at the base of the leaves. Further material may show this plant to be worthy of specific rank, but for the present at least the writer prefers to regard it as a form of the above named species.

Verbesina stenophylla. Stems herbaceous, winged, erect from a ligneous base, about 1 m. in height, essentially glabrous below, hirtellous-puberulent above: leaves alternate, narrowly spatulate, 7 to 18 cm. long, 6 to 10 mm. broad, obtuse or acute at the apex, gradually narrowed below to a sessile decurrent base, entire or inconspicuously denticulate, somewhat roughened on the margins, glabrous above, below glabrous or in the earlier stages hirtellous, midrib prominent beneath, veins semitransparent, rather strongly reticulated; the upper leaves gradually reduced to linear-attenuate bracts: inflorescence in a single terminal head or disposed in a single cyme: heads few, about 12 mm. in diameter (including the rays 3 to 3½ cm. in diameter); involucre scales 2-3-seriate, linear, hirsute-pubescent; ligules yellowish white, about 10 in number, 10 to 12 mm. long; chaff oblong-linear, attenuate above to an acute apex, margin somewhat erose near the tip: achenes 6 mm. long, 4 mm. broad, strongly winged with subciliated margins, and scattered hirsute pubescence on either surface. — Collected by C. G. Pringle, on moist slopes above Cuernavaca, altitude 2,000 m., 18 September, 1896, no. 6503.

Bahia Pringlei. Perennial by slender rhizomes: stems branching from the base: branches ascending, 25 cm. or more high, hoary pubescent: leaves opposite or alternate, tritermately compound, segments linear, obtuse, white hirsute-pubescent: heads 12 mm. high, nearly 2 cm. in diameter, usually on long slender peduncles: involucre about 3-seriate, hirsute; scales several, oblong-linear to subobovate, the inner ones with scarious margins: rays yellow, 6 to 7 mm. long, 2 mm. broad: disk-flowers numerous: corolla 5 mm. or more long, externally glandular-

pubescent: pappus of about 8 broadly obovate scarious scales, 2 mm. long, nearly or quite as broad: achenes puberulent, 4 to 5 mm. long. — Collected by C. G. Pringle, on calcareous bluffs, near Tula, altitude 2,100 m., 6 August, 1896, no. 6407. Allied to *B. Schaffneri*, Wats., from which it is distinguished by its perennial base, large heads and flowers.

Tagetes triradiata. An annual erect branching glabrous herb, 4 to 5 dm. high: stems sulcate, striate, greenish purple: lower branches opposite, upper alternate, ascending: leaves imparipinnately divided to the narrowly winged midrib; divisions subopposite in 7 to 10 pairs, narrowly lanceolate, dentate with acute and often setigerous teeth, 10 to 16 mm. long, 3 to 6 mm. broad, much reduced near the base of the leaf: inflorescence paniculate, formed by the branches terminating in slender pedunculate heads: peduncles somewhat thickened above, 2 to 3 cm. long: heads cylindrical or somewhat spindle-shaped, 1 to 1½ cm. long, about 12-flowered; involucre greenish purple, obtusely 3-4-dentate, often split down the side to one third its entire length; rays three, bright yellow, including the achenes 14 mm. long, tube somewhat angular, puberulent on the angles, the expanded portion unequally 3-lobed, about twice as broad as long; disk-flowers polygonal, puberulent: pappus variable, usually of 6 unequal scales, 2, 3, 4, or even 5 of the scales hispidulous, long acuminate-aristate, the others short linear-oblong or spatulate, obtuse; achenes appressed-puberulent, about 7 mm. long. — Collected by C. G. Pringle, Pedigral (lava beds), Valley of Mexico, altitude 2,300 m., 12 October, 1896, no. 6592. In general habit closely resembling *T. foetidissima*, DC., differing, however, in the number of the ray-flowers, the character of the same, and also in the character of the pappus.

Cacalia suffulta. Stems 2 to 3 m. high, terete, sulcate-striate, purple, glabrous, leafy throughout: lower leaves orbicular-ovate, cordate, 15 to 18 cm. long, 18 cm. or more broad, palmately nerved, 9-11-lobed, mucronate-denticulate, above glabrous, below hirsutish on the strongly reticulated veins; petioles 10 to 12 cm. long; upper cauline leaves considerably smaller, 5 to 8 cm. long, equally broad, puberulent on the veins above (becoming glabrous), hirsutish on the veins and nerves beneath, becoming gradually reduced above to the sessile foliar bracts of the sub-corymbose inflorescence: outer clusters of the corymb on long naked striated purple peduncles: heads large, 2 to 2½ cm. high, about 2 cm. in diameter, subtended and rather closely enveloped by ovate-oblong obtuse sessile bracts: involucre about 2-seriate; scales oblong, obtuse, 10 to 14 mm. long, 3 to 4 mm. broad, greenish purple, glabrous, somewhat keeled on the back, much thickened at the base, apex often ciliated:

flowers numerous (about 60), including the achenes 2 cm. or more in length: achenes short, columnar, striate, puberulent, 3 mm. long in the flowering stage: pappus silvery white. — Collected by C. G. Pringle, on a wet barranca above Cuernavaca, altitude 2,000 m., 1 November, 1896, no. 6626. A very distinct species of *Cacalia*, the younger leaves much resembling the foliage of *Senecio reticulatus*, DC., and with the inflorescence of *C. platylepis*, Rob. & Seaton.

CYNARA CARDUNCELLUS, L. This very showy plant, native of the Old World, appears not to have been hitherto recorded from Mexico. It was collected by Wislizenus, at Saltillo, Coahuila, no. 310, and by E. W. Nelson, at Celaya, Guanajuato, no. 3866.